Facility name: MANVILLE SITE

Location: WAUKEGAN, ILLINOIS

EPA Region: V

Person(s) in charge of the facility: NORM NIEDERGANG, ON-SCENE COORDINATOR

Name of Reviewer: NORM NIEDERGANG Date: AUG. 12, 1982.

General description of the facility:

(For example: landfill, surface impoundment, pile, container; types of hazardous substances; location of the facility; contamination route of major concern; types of information needed for rating; agency action, etc.)

LANDFILL BORDERING LAKE MICHIGAN ON MANVILLE PROPERTY INTO WHICH IS PLACED BOTH FRIABLE AND CONSOLIDATED ASBESTOS AND OTHER MANUFACTURING WASTES. THE LANDFILL HAS BEEN IN USE SINCE ABOUT 1920.

Scores: S_M = 38.31 (S_{gw} = 4.69 S_{sw} = 9.70 S_a = 65.36)

S_{FE} = 0

S_{DC} = 37.50

FIGURE 1
HRS COVER SHEET

Ground Water Route Work Sheet					
Rating Factor	Assigned Value (Circle One)	Multi-plier	Score	Max. Score	Ref. (Section)
1 Observed Release	(0) 45	1	0	45	3.1
If observed release is given a score of 45, proceed to line 4. If observed release is given a score of 0, proceed to line 2.					
2 Route Characteristics					3.2
Depth to Aquifer of Concern	0 1 2 (3)	2	6	6	
Net Precipitation	0 (1) 2 3	1	1	3	
Permeability of the Unsaturated Zone	0 1 2 (3)	1	3	3	
Physical State	0 1 (2) 3	1	2	3	
Total Route Characteristics Score			12	15	
3 Containment	0 1 2 (3)	1	3	3	3.3
4 Waste Characteristics					3.4
Toxicity/Persistence	0 3 6 9 12 15 (18)	1	18	18	
Hazardous Waste Quantity	0 1 2 3 4 5 6 7 (8)	1	8	8	
Total Waste Characteristics Score			26	26	
5 Targets					3.5
Ground Water Use	0 (1) 2 3	3	3	9	
Distance to Nearest Well/Population Served	(0) 4 6 8 10 12 16 18 20 24 30 32 35 40	1	0	40	
Total Targets Score			3	49	
6 If line 1 is 45, multiply 1 x 4 x 5 If line 1 is 0, multiply 2 x 3 x 4 x 5			2808	57,330	
7 Divide line 6 by 57,330 and multiply by 100			S_{gw} = 4.89		

FIGURE 2
GROUND WATER ROUTE WORK SHEET

Surface Water Route Work Sheet

Rating Factor	Assigned Value (Circle One)	Multi-plier	Score	Max. Score	Ref. (Section)
1 Observed Release	(0) 45	1	0	45	4.1
If observed release is given a value of 45, proceed to line 4. If observed release is given a value of 0, proceed to line 2.					
2 Route Characteristics					4.2
Facility Slope and Intervening Terrain	(0) 1 2 3	1	0	3	
1-yr. 24-hr. Rainfall	0 1 (2) 3	1	2	3	
Distance to Nearest Surface Water	0 1 2 (3)	2	6	6	
Physical State	0 1 (2) 3	1	2	3	
Total Route Characteristics Score			10	15	
3 Containment	0 1 (2) 3	1	2	3	4.3
4 Waste Characteristics					4.4
Toxicity/Persistence	0 3 6 9 12 15 (18)	1	18	18	
Hazardous Waste Quantity	0 1 2 3 4 5 6 7 (8)	1	8	8	
Total Waste Characteristics Score			26	26	
5 Targets					4.5
Surface Water Use	0 1 (2) 3	3	6	9	
Distance to a Sensitive Environment	0 1 2 (3)	2	6	6	
Population Served/Distance to Water Intake Downstream	(0) 4 6 8 10 / 12 16 18 20 / 24 30 32 35 40	1	0	40	
Total Targets Score			12	55	
6 If line 1 is 45, multiply 1 x 4 x 5. If line 1 is 0, multiply 2 x 3 x 4 x 5			6240	64,350	
7 Divide line 6 by 64,350 and multiply by 100		S_{SW} =	9.70		

FIGURE 7
SURFACE WATER ROUTE WORK SHEET

Air Route Work Sheet

Rating Factor	Assigned Value (Circle One)	Multiplier	Score	Max. Score	Ref. (Section)
[1] Observed Release	0 (45)	1	45	45	5.1
Date and Location: 4/28/82 UPWIND, MIDSITE AND DOWNWIND					
Sampling Protocol: 8-HR SAMPLES COLLECTED AT ABOVE LOCATIONS ON 37MM MCE FILTERS, THEN ANALYSED BY ELECTRON MICROSCOPY.					
If line [1] is 0, the S_a = 0. Enter on line [5]. If line [1] is 45, then proceed to line [2].					
[2] Waste Characteristics					5.2
Reactivity and Incompatibility	(0) 1 2 3	1	0	3	
Toxicity	0 1 2 (3)	3	9	9	
Hazardous Waste Quantity	0 1 2 3 4 5 6 7 (8)	1	8	8	
Total Waste Characteristics Score			17	20	
[3] Targets					5.3
Population Within 4-Mile Radius	0 9 12 15 18 (21) 24 27 30	1	21	30	
Distance to Sensitive Environment	0 1 2 (3)	2	6	6	
Land Use	0 1 2 (3)	1	3	3	
Total Targets Score			30	39	
[4] Multiply [1] x [2] x [3]			22950	35,100	
[5] Divide line [4] by 35,100 and multiply by 100			S_a = 65.38		

FIGURE 9
AIR ROUTE WORK SHEET

	S	S^2
Groundwater Route Score (S_{gw})	4.89	23.91
Surface Water Route Score (S_{sw})	9.70	94.09
Air Route Score (S_a)	65.38	4274.54
$S_{gw}^2 + S_{sw}^2 + S_a^2$		4392.54
$\sqrt{S_{gw}^2 + S_{sw}^2 + S_a^2}$		66.28
$\sqrt{S_{gw}^2 + S_{sw}^2 + S_a^2} \,/\, 1.73 = S_M =$		38.31

FIGURE 10
WORKSHEET FOR COMPUTING S_M

-NOT APPLICABLE-

Fire and Explosion Work Sheet						
Rating Factor	Assigned Value (Circle One)	Multi-plier	Score	Max. Score	Ref. (Section)	
1 Containment	1 3	1		3	7.1	
2 Waste Characteristics					7.2	
Direct Evidence	0 3	1		3		
Ignitability	0 1 2 3	1		3		
Reactivity	0 1 2 3	1		3		
Incompatibility	0 1 2 3	1		3		
Hazardous Waste Quantity	0 1 2 3 4 5 6 7 8	1		8		
Total Waste Characteristics Score				20		
3 Targets					7.3	
Distance to Nearest Population	0 1 2 3 4 5	1		5		
Distance to Nearest Building	0 1 2 3	1		3		
Distance to Sensitive Environment	0 1 2 3	1		3		
Land Use	0 1 2 3	1		3		
Population Within 2-Mile Radius	0 1 2 3 4 5	1		5		
Buildings Within 2-Mile Radius	0 1 2 3 4 5	1		5		
Total Targets Score				24		
4 Multiply 1 x 2 x 3				1,440		
5 Divide line 4 by 1,440 and multiply by 100			S_{FE} =			

FIGURE 11
FIRE AND EXPLOSION WORK SHEET

Direct Contact Work Sheet						
Rating Factor	Assigned Value (Circle One)		Multi-plier	Score	Max. Score	Ref. (Section)
[1] Observed Incident	0	45	1	0	45	8.1
If line [1] is 45, proceed to line [4] If line [1] is 0, proceed to line [2]						
[2] Accessibility	0 1 2 (3)		1	3	3	8.2
[3] Containment	0 (15)		1	15	15	8.3
[4] Waste Characteristics Toxicity	0 1 2 (3)		5	15	15	8.4
[5] Targets						8.5
Population Within a 1-Mile Radius	0 1 2 (3) 4 5		4	12	20	
Distance to a Critical Habitat	(0) 1 2 3		4	0	12	
Total Targets Score				12	32	
[6] If line [1] is 45, multiply [1] x [4] x [5] If line [1] is 0, multiply [2] x [3] x [4] x [5]				8100	21,600	
[7] Divide line [6] by 21,600 and multiply by 100				S_{DC} = 37.50		

FIGURE 12
DIRECT CONTACT WORK SHEET

June 28, 1982

DOCUMENTATION RECORDS
FOR
HAZARD RANKING SYSTEM

INSTRUCTIONS: The purpose of these records is to provide a convenient way to prepare an auditable record of the data and documentation used to apply the Hazard Ranking System to a given facility. As briefly as possible summarize the information you used to assign the score for each factor (e.g., "Waste quantity = 4,230 drums plus 800 cubic yards of sludges"). The source of information should be provided for each entry and should be a bibliographic-type reference that will make the document used for a given data point easier to find. Include the location of the document and consider appending a copy of the relevant page(s) for ease in review.

FACILITY NAME: JOHNS - MANVILLE

LOCATION: WAUKEGAN, ILLINOIS (S1/2, SEC 10, R45N, T23E)

NOTE: THE WASTE DISPOSAL AREA IS LOCATED ON AN AREA WHICH HAS BEEN BUILT UP BY WASTES* ACCUMULATING SINCE ABOUT 1920 TO A HEIGHT OF APPROXIMATELY 50 TO 60 FT. ABOVE THE NATURAL GROUND SURFACE. THEREFORE, ANY CITED REFERENCE WHICH DISCUSSES "LANDFILL" OR "LANDFILLED AREA" IS ACTUALLY REFERRING TO THE AREA WHICH HAS BEEN FILLED FROM THE NATURAL GROUND SURFACE UP TO A HEIGHT OF 50 TO 60 FT. TO THE BEST OF MY ESTIMATION, NO LANDFILLING HAS EVER OCCURED BELOW THE NATURAL GROUND SURFACE. THEREFORE A MORE CORRECT WAY TO DESCRIBE THE METHOD OF DISPOSAL AT THIS SITE IS "WASTE PILE". FURTHERMORE, CURRENT DISPOSAL OF FRIABLE ASBESTOS OCCURS IN AN EXCAVATED PIT ABOUT 150 FT. IN DIAMETER AND APPROXIMATELY 50 FT DEEP FROM THE TOP OF THE BUILT UP AREA TO THE NATURAL GROUND SURFACE.

*1

GROUND WATER ROUTE

1 OBSERVED RELEASE

Contaminants detected (5 maximum):

— NO DOCUMENTED RELEASE —

Rationale for attributing the contaminants to the facility:

* * *

2 ROUTE CHARACTERISTICS

Depth to Aquifer of Concern

Name/description of aquifers(s) of concern:

GROUNDWATER DISCHARGE ZONE (0-50 FEET BELOW NATURAL GROUND SURFACE)

(LETTER FROM ILLINOIS STATE GEOLOGICAL SURVEY TO ROBERT WENGROW DATED 2/23/78.)

Depth(s) from the ground surface to the highest seasonal level of the saturated zone [water table(s)] of the aquifer of concern:

TOP OF THE ZONE OF SATURATION IS AT OR NEAR THE NATURAL GROUND SURFACE.

(SEE LETTER REFERENCED ABOVE)

Depth from the ground surface to the lowest point of waste disposal/ storage:

LOWEST POINT OF WASTE DISPOSAL/STORAGE IS AT THE NATURAL GROUND SURFACE (SEE P1. OF THIS FORM FOR FURTHER EXPLANATION)

Net Precipitation

Mean annual or seasonal precipitation (list months for seasonal):

MEAN ANNUAL PRECIPITATION = 32 INCHES

(FROM THE MODEL)

Mean annual lake or seasonal evaporation (list months for seasonal):

MEAN ANNUAL EVAPORATION = 30 INCHES

(FROM THE MODEL)

Net precipitation (subtract the above figures):

NET PRECIPITATION = +2 INCHES

Permeability of Unsaturated Zone

Soil type in unsaturated zone:

SURFICIAL BEACH SAND WHICH IS DENSE AND MEDIUM GRAINED.

(FROM: LETTER FROM ILLINOIS STATE GEOLOGICAL SURVEY TO ROBERT WENGLOW DATED 2/23/78)

Permeability associated with soil type:

$> 10^{-3}$ cm/sec.

(FROM THE MODEL AND FREEZE & CHERRY, 1979, GROUNDWATER.)

Physical State

Physical state of substances at time of disposal (or at present time for generated gases):

FINE MATERIAL (FRIABLE ASBESTOS)

(ICPA DIVISION FILE MEMO FROM MARY SCHROEDER DATED 1/13/82

* * *

3 CONTAINMENT

Containment

Method(s) of waste or leachate containment evaluated:

WASTE PILE

(SEE p1 OF THIS FORM FOR FURTHER EXPLANATION OF WASTE MANAGEMENT METHOD CHOSEN)

Method with highest score:

SINCE THE BUILT UP AREA IS LIKELY TO CONTAIN FRIABLE ASBES WASTE AS WELL AS CONSOLIDATED ASBESTOS WASTE MATERIAL (FROM EARLY WASTE DISPOSAL TECHNIQUES) AND THE PILES ARE NOT COVERE WITH AN APPROPRIATE COVER MATERIAL (ie- ENGINEERED MATERIAL) AND NO LINER REPORTEDLY EXISTS (IEPA DIVISION FILE MEMO FROM MARY SCHROED DATED 2/8/80) - THIS WOULD RATE A (3)

4 WASTE CHARACTERISTICS

Toxicity and Persistence

Compound(s) evaluated:

FRIABLE ASBESTOS

(MEMO CITED ABOVE)

Compound with highest score:

FRIABLE ASBESTOS: TOXICITY → SAX LEVEL 3

PERSISTENCE → HIGHLY PERSISTENT; LEVEL 3

Hazardous Waste Quantity

Total quantity of hazardous substances at the facility, excluding those with a containment score of 0 (Give a reasonable estimate even if quantity is above maximum):

(SEE ATTACHED MEMO)

Basis of estimating and/or computing waste quantity:

(SEE ATTACHED MEMO)

* * *

5 TARGETS

Ground Water Use

Use(s) of aquifer(s) of concern within a 3-mile radius of the facility:

NOT USED, BUT USABLE

(LETTER FROM ISGS TO ROBERT WENDROW DATED 2/23/78)

Distance to Nearest Well

Location of nearest well drawing from aquifer of concern or occupied building not served by a public water supply:

NONE

(LETTER CITED ABOVE)

Distance to above well or building:

- NOT APPLICABLE -

Population Served by Ground Water Wells Within a 3-Mile Radius

Identified water-supply well(s) drawing from aquifer(s) of concern within a 3-mile radius and populations served by each:

NONE

(TOPOGRAPHIC MAP; CITY OF WAUKEGAN PUBLIC WORKS)

Computation of land area irrigated by supply well(s) drawing from aquifer(s) of concern within a 3-mile radius, and conversion to population (1.5 people per acre):

NONE

Total population served by ground water within a 3-mile radius:

NONE

SURFACE WATER ROUTE

1 OBSERVED RELEASE

Contaminants detected in surface water at the facility or downhill from it (5 maximum):

— NONE DOCUMENTED —

Rationale for attributing the contaminants to the facility:

* * *

2 ROUTE CHARACTERISTICS

Facility Slope and Intervening Terrain

Average slope of facility in percent:

VARIES CONSIDERABLY HOWEVER, SLOPE FROM TOP OF SITE TO NATURAL GROUND LEVEL IS ≥ 8%.

(ON-SITE INSPECTION OBSERVATIONS BY ECOLOGY & ENVIRONMENT, INC - FIT PICTURES INCLUDED

Name/description of nearest downslope surface water:

LAKE MICHIGAN

Average slope of terrain between facility and above-cited surface water body in percent:

~ 15FT/800 TO 1000 FT = 1.5% TO 1.9% SLOPE

(ON-SITE INSPECTION OBSERVATIONS BY ECOLOGY & ENVIRONMENT, INC - FIT AND TOPO MAP MEASUREMENT)

Is the facility located either totally or partially in surface water?

NO

(ON-SITE INSPECTION BY ECOLOGY & ENVIRONMENT, INC (FIT))

Is the facility completely surrounded by areas of higher elevation?

NO

1-Year 24-Hour Rainfall in Inches

BETWEEN 2.0 TO 2.5 INCHES

(FROM MODEL)

Distance to Nearest Downslope Surface Water

<1000 FT.

DIRECT
(MEASUREMENT FROM TOPO MAP)

Physical State of Waste

FINE MATERIAL (FRIABLE ASBESTOS)

(SEE p. 3 OF THIS FORM FOR REFERENCE)

* * *

3 CONTAINMENT

Containment

Method(s) of waste or leachate containment evaluated:

WASTE PILES

(SEE p. 1 OF THIS FORM FOR FURTHER EXPLAINATION OF WASTE MANAGEMENT METHOD CHOSEN)

Method with highest score:

SINCE THE BUILT UP AREA IS LIKELY TO CONTAIN FRIABLE ASBESTOS WASTE AS WELL AS CONSOLIDATED ASBESTOS WASTE MATERIAL (FROM EARLY WASTE DISPOSAL TECHNIQUES AND THE PILES ARE NOT COVERED WITH AN APPROPRIATE COVER MATERIAL (ie - EARTHEN MATERIAL AND THE CONTAINMENT / DIVERSION SYSTEM IS POTENTIALLY UNSOUND (INADEQUATE COVER OF BUILT UP AREA) - THIS WOULD RATE A (2).

(IEPA LETTER FROM JOE PETRILLI TO J-M CORP. DATED 11/9/77 AND

4 WASTE CHARACTERISTICS

Toxicity and Persistence

Compound(s) evaluated
FRIABLE ASBESTOS

— SEE p 4 OF THIS FORM —

Compound with highest score:
FRIABLE ASBESTOS

Hazardous Waste Quantity

Total quantity of hazardous substances at the facility, excluding those with a containment score of 0 (Give a reasonable estimate even if quantity is above maximum):

UNKNOWN

Basis of estimating and/or computing waste quantity:

— SEE p. 4 OF THIS FORM —

* * *

5 TARGETS

Surface Water Use

Use(s) of surface water within 3 miles downstream of the hazardous substance:

RECREATION - FISHING, BOATING, SWIMMING, etc

Is there tidal influence?

— NOT APPLICABLE —

Distance to a Sensitive Environment

Distance to 5-acre (minimum) coastal wetland, if 2 miles or less:

— NOT APPLICABLE —

Distance to 5-acre (minimum) fresh-water wetland, if 1 mile or less:

WETLANDS IMMEDIATELY ADJACENT TO SITE (< 100 FT.)

(TOPO MAP — WAUCEGAN QUAD)

Distance to critical habitat of an endangered species or national wildlife refuge, if 1 mile or less:

NONE KNOWN

Population Served by Surface Water

Location(s) of water-supply intake(s) within 3 miles (free-flowing bodies) or 1 mile (static water bodies) downstream of the hazardous substance and population served by each intake:

NONE

NOTE: INTAKE LOCATED SEC. 22, T45N, R23E IS ONLY USED 1-2 DAYS A YEAR AND ACCORDING TO BOB BARTHOLOMEW (FIT) IS THEREFORE NOT REPRESENTATIVE OF THE WATER SUPPLIED TO THE POPULATION ON A DAY-TO-DAY BASIS.

INTAKES SERVING THE POPULATION ARE WELL OUTSIDE THE 1-MILE PERSCRIBED RADIUS (STATIC WATER BODY)

Computation of land area irrigated by above-cited intake(s) and conversion to population (1.5 people per acre):

NONE

Total population served:

NONE

Name/description of nearest of above water bodies:

LAKE MICHIGAN

Distance to above-cited intakes, measured in stream miles.

SURFACE WATER
INTAKE LOCATED JUST OVER 4 MILES DOWNSTREAM

(DIRECT MEASUREMENT - TOPO MAP, WAUKEGAN QUAD)

AIR ROUTE

1 OBSERVED RELEASE

Contaminants detected:

ASBESTOS

Date and location of detection of contaminants

4/28/82 UPWIND, MIDSITE, AND DOWNWIND SAMPLES

Methods used to detect the contaminants:

8-HOUR SAMPLES COLLECTED AT ABOVE LOCATIONS ON 37mm. MCE FILTERS THEN ANALYZED (FIBER COUNT) BY ELECTRON MICROSCOPY.

Rationale for attributing the contaminants to the site:

KNOWN ASBESTOS DISPOSAL SITE AND NATURE OF SAMPLE COLLECTION METHOD.

* * *

2 WASTE CHARACTERISTICS

Reactivity and Incompatibility

Most reactive compound:

ASBESTOS → "0" (NFPA)

Most incompatible pair of compounds:

NO INCOMPATIBLE PAIRS

Toxicity

Most toxic compound:

FRIABLE ASBESTOS → SAX LEVEL 2

Hazardous Waste Quantity

Total quantity of hazardous waste:

UNKNOWN

Basis of estimating and/or computing waste quantity:

(SEE ATTACHED MEMO)

3 TARGETS

Population Within 4-Mile Radius

Circle radius used, give population, and indicate how determined:

(0 to 4 mi) 0 to 1 mi 0 to 1/2 mi 0 to 1/4 mi

CITY OF WAUCEGAN ALONE IS 67,653 PEOPLE ACCORDING TO THE 1980 CENSUS WHICH MAY'S THE POPULATION IN THIS RADIUS. (SMALLER RADII' EXCLUDE THE MAJOR POPULATION AREAS AND WOULD RESULT IN AN OVERALL LOWER SCORE.)

Distance to a Sensitive Environment — FROM TOPO MAP - WAUCEGAN QUAD. AND CITY OF WAUCEGAN PLANNING DEPT. —

Distance to 5-acre (minimum) coastal wetland, if 2 miles or less:

NOT APPLICABLE

Distance to 5-acre (minimum) fresh-water wetland, if 1 mile or less:

SEE p. 9 OF THIS FORM

Distance to critical habitat of an endangered species, if 1 mile or less:

NONE KNOWN

Land Use

Distance to commercial/industrial area, if 1 mile or less:

INDUSTRIAL AREA ADJACENT (< 1/4 MILE)

(AERIAL PHOTO'S ; TOPO MAP - WAUKEGAN QUAD)

Distance to national or state park, forest, or wildlife reserve, if 2 miles or less:

ILLINOIS BEACH STATE PARK ADJACENT (< 1/4 MILE)

(TOPO MAP - WAUKEGAN QUAD)

Distance to residential area, if 2 miles or less:

RESIDENTIAL AREA (1/4 - 1/2 MILE)

(TOPO MAP - WAUKEGAN QUAD)

Distance to agricultural land in production within past 5 years, if 1 mile or less:

NONE

Distance to prime agricultural land in production within past 5 years, if 2 miles or less:

NONE

Is a historic or landmark site (National Register or Historic Places and National Natural Landmarks) within the view of the site?

NONE

DIRECT CONTACT

[ ] OBSERVED INCIDENT

— NONE DOCUMENTED —

[2] ACCESSIBILITY

AS PER DON WOODS (FIT - SITE INSPECTION TEAM MEMBER) BARRICADE AROUND SITE DOES NOT EXTEND ALONG THE ENTIRE EASTERN EDGE OF THE SITE (LAKESIDE) AND ACCESS IS POSSIBLE FROM THAT SIDE.

[3] CONTAINMENT

PILES, NOT COVERED WITH PROPER COVER MATERIAL (ie - EARTHEN MATERIAL) - PILES SUSPECT TO CONTAIN FRIABLE ASBESTOS DUE TO EARLY DISPOSAL TECHNIQUES

[1] WASTE CHARACTERISTICS - TOXICITY

FRIABLE ASBESTOS → SAX LEVEL 3

[5] TARGETS

POPULATION (1-MILE RADIUS): ① INDUSTRIAL AREA (WEST AND SOUTHWEST)
② ITEMIZED RESIDENTIAL AREA (WEST)
PLUS @ 65 STRUCTURES x 3.8 = > 247 PEOPLE
TOTAL: 1000 - 5000 ESTIMA
(FROM AERIAL PHOTO'S | TOPO MAP)

DISTANCE TO A CRITICAL HABITAT:

NO KNOWN ENDANGERED SPECIES

: 4/28/82

: 1:19 A.M. (P.M.)

ograph By:

Don Woods

F5-8203-2-03

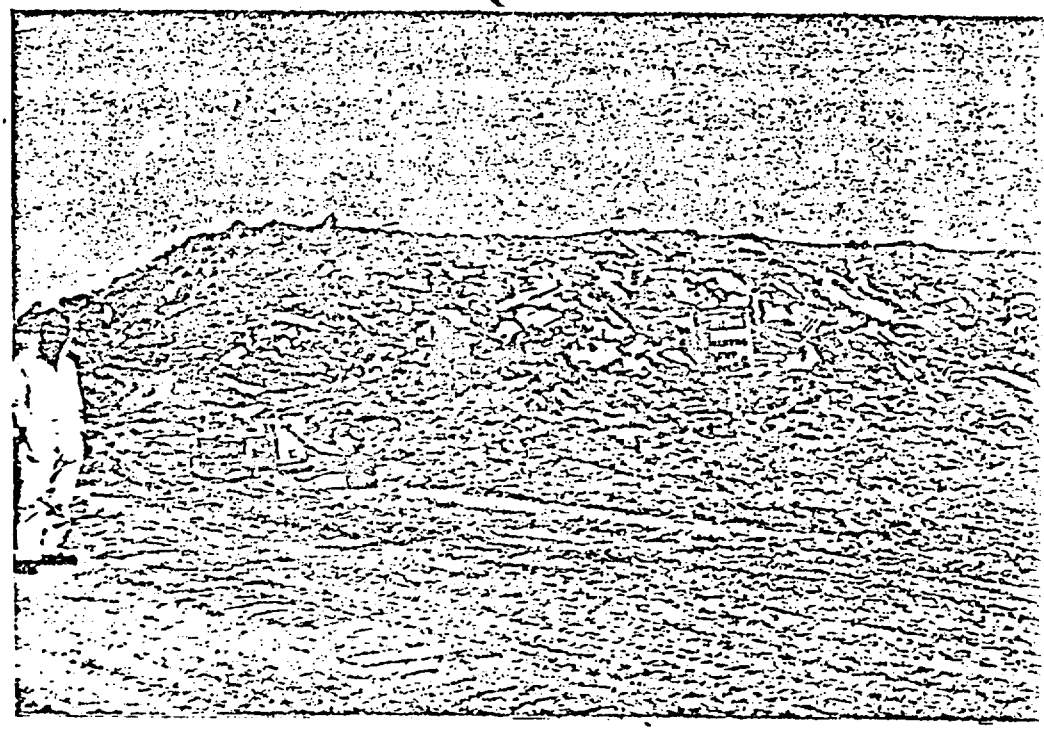
te- Illinois MITRE

ohns Mansville/ Waukegan

ents: Photograph taken

rd the North of Midsite

STATION



e: 4/28/82

e: 1:17 A.M. (P.M.)

tograph By:

Don Woods

D# F5-8203-2-03

tate- Illinois MITRE

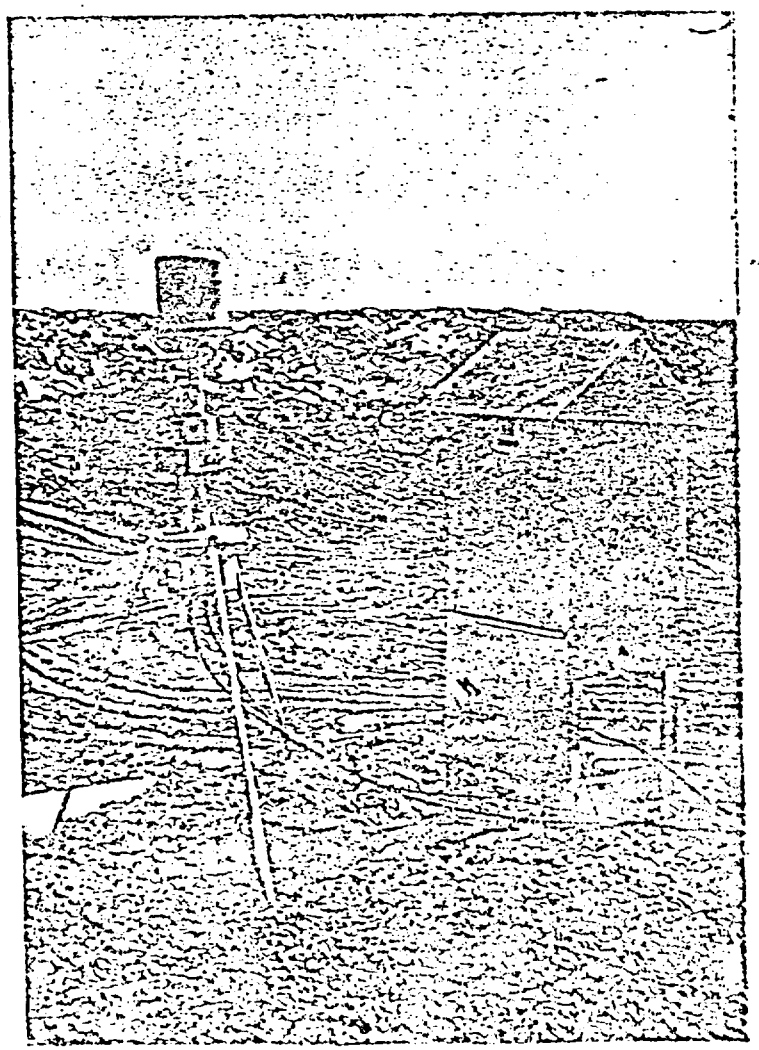
Johns Mansville / Waukegan

ents: Photograph taken

ard the EAST - Midsite

Chotermous Samplea on left

HiVol Samplea Right (John Mansville's)



4/28/82

11:46 (A.M.) P.M.

graph By:

Don Woods

F5-8203-2-03

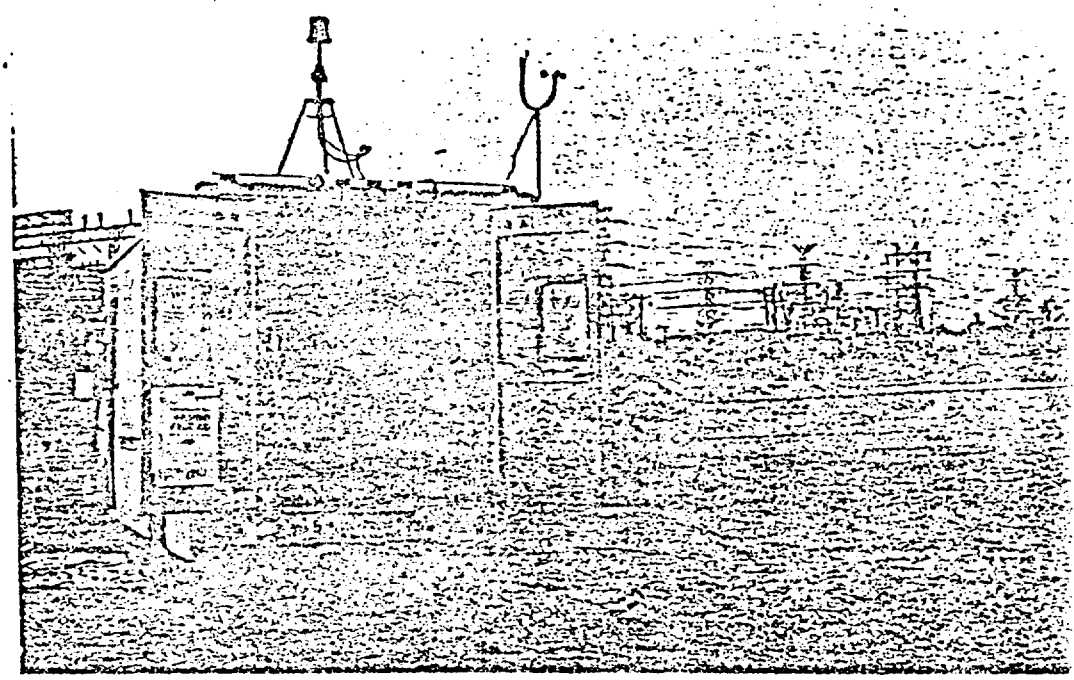
e- Illinois MITRE

ons Manville/ Waukegan

nts: Photograph taken

ed the South

downwind station



4/28/82

11:45 (A.M.) P.M.

ograph By:

Don Woods

D# F5-8203-2-03

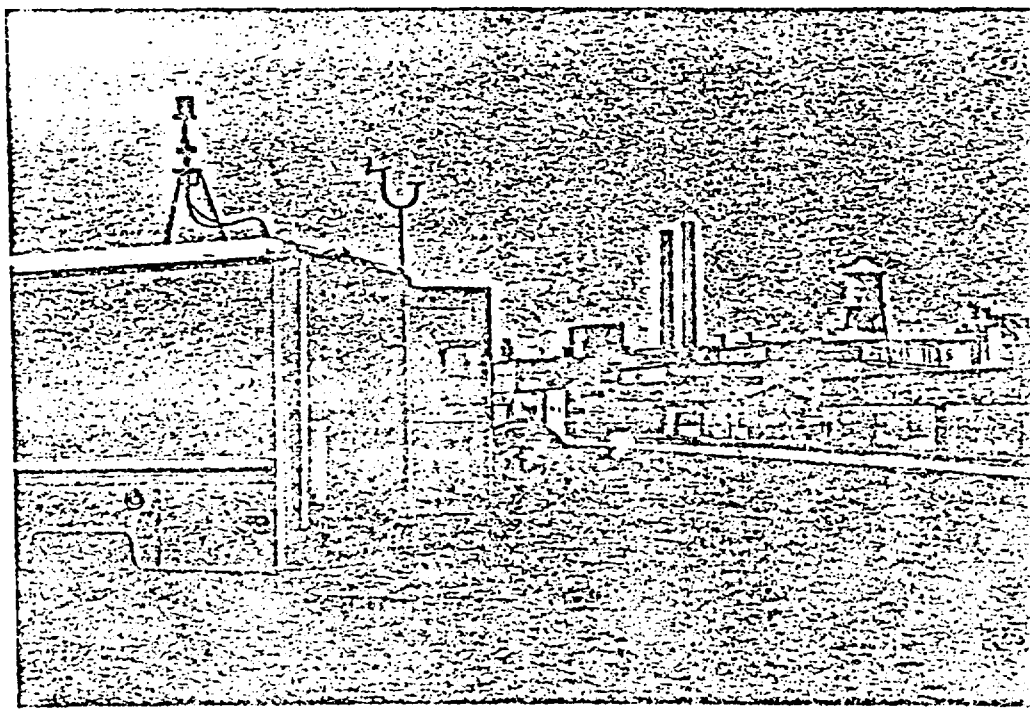
ate- Illinois MITRE

ohns Manville/ Waukegan

ments: Photograph taken

ard the West

downwind station



: 4/28/82

: 1:20 A.M. P.M.

ograph By:

Don Woods

D# FS-8203-2-03

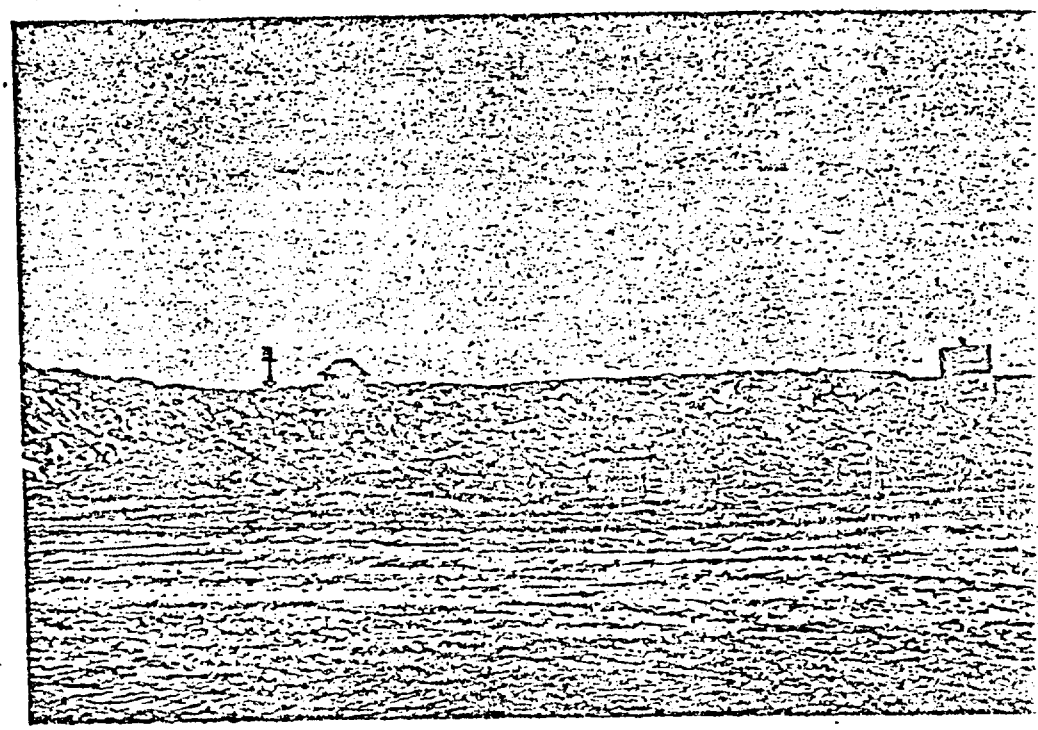
ate- Illinois Mitre

Johns Manville / Waukegan

ments: Photograph taken

ard the EAST of

Midsite STATION



te: 4/28/82

me: 1:21 A.M. P.M.

otograph By:

Don Woods

TDD# FS-8203-2-03

State- Illinois Mitre

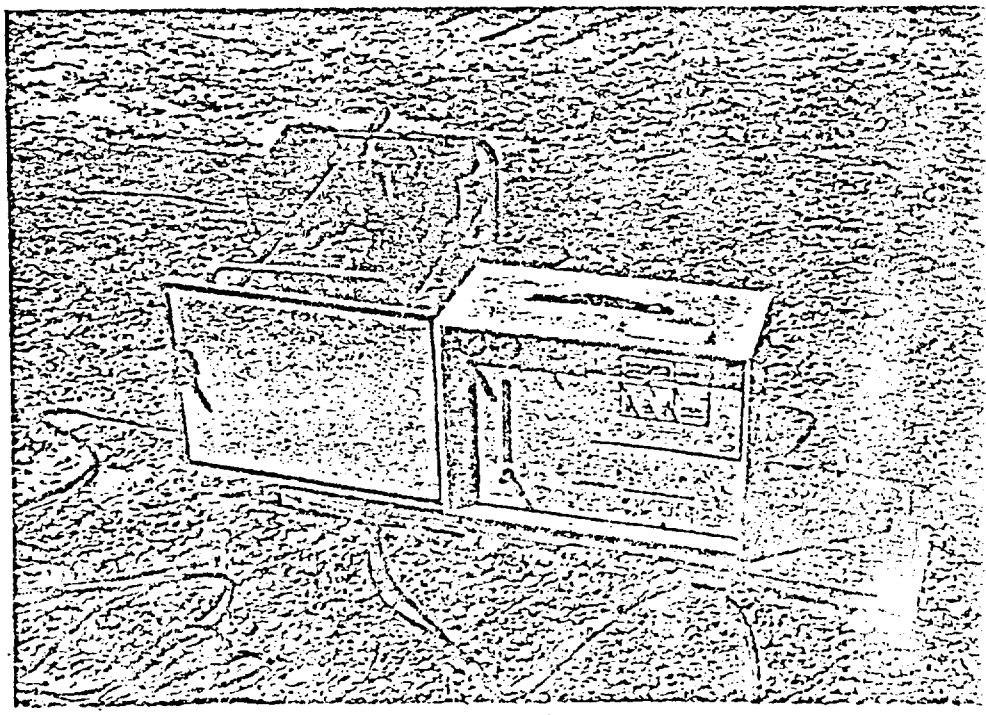
Johns Manville / Waukegan

comments: Photograph taken

ward the Close of Midsite

diatomaceous Samples pump

and Excavation



:: 4/28/82

e: 1:25 A.M. (P.M.)

tograph By:

Don Woods

D# FS-8203-2-03

ate- Illinois MITRE

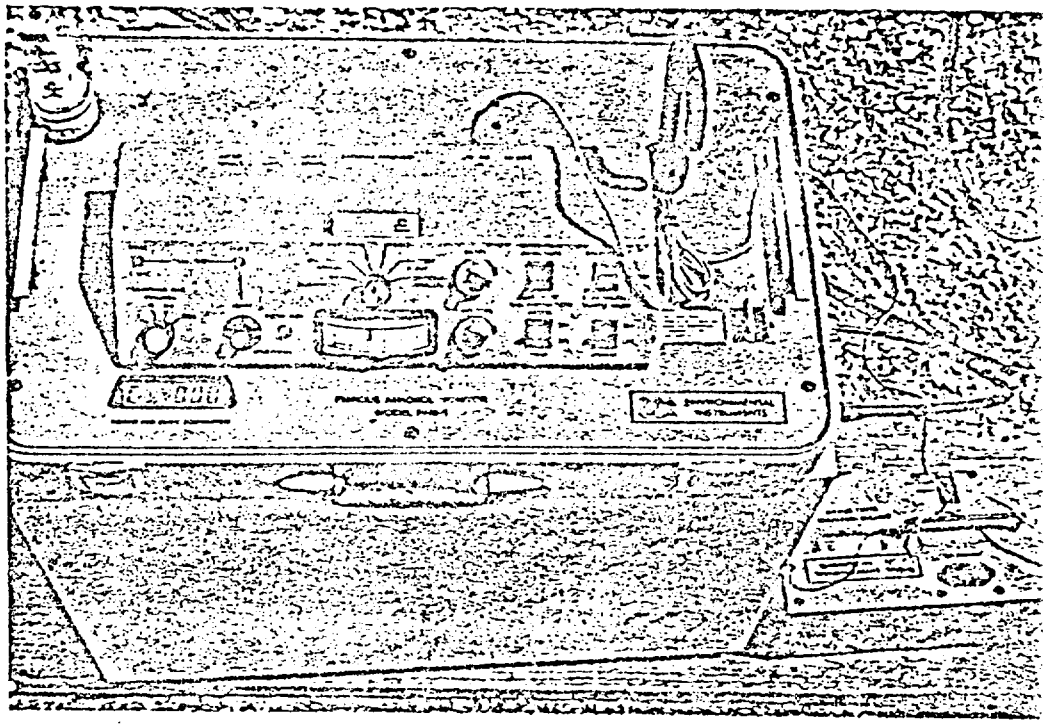
ohns Manville / Waukegan

ments: Photograph taken

ard the Close up @ Midsite

ation - FAM-1 (Fibrous

erosol Monitor)



e: 4/28/82

e: 1:26 A.M. (P.M.)

tograph By:

Don Woods

D# FS-8203-2-03

ate- Illinois MITRE

ohns Manville / Waukegan

ments: Photograph taken

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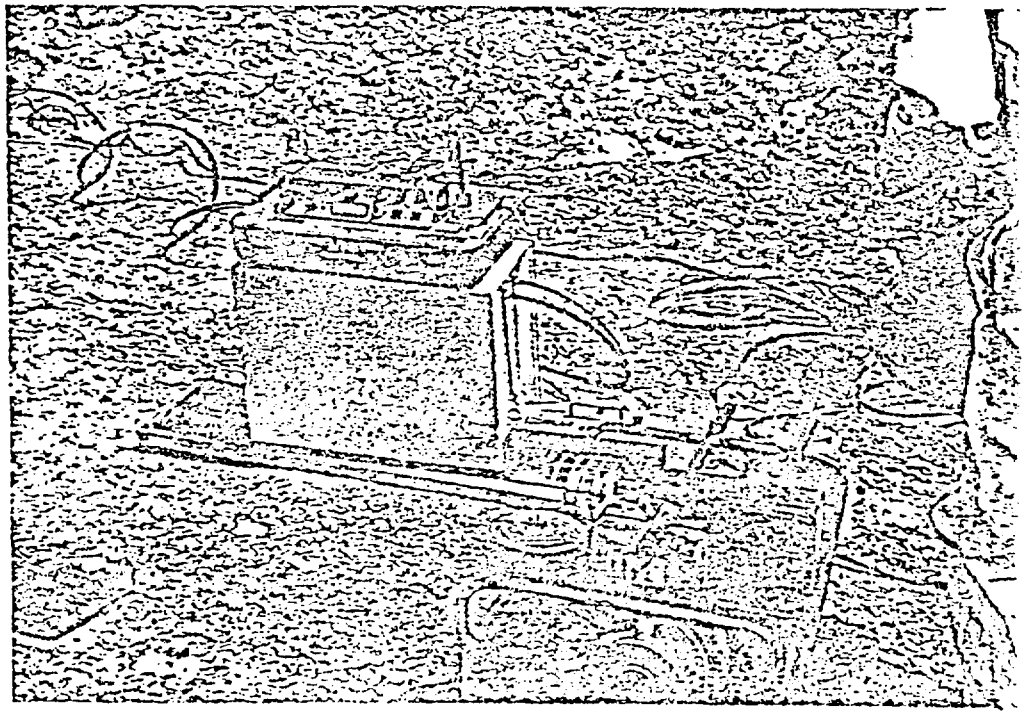

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Don Woods

DD# ES-8203-2-03

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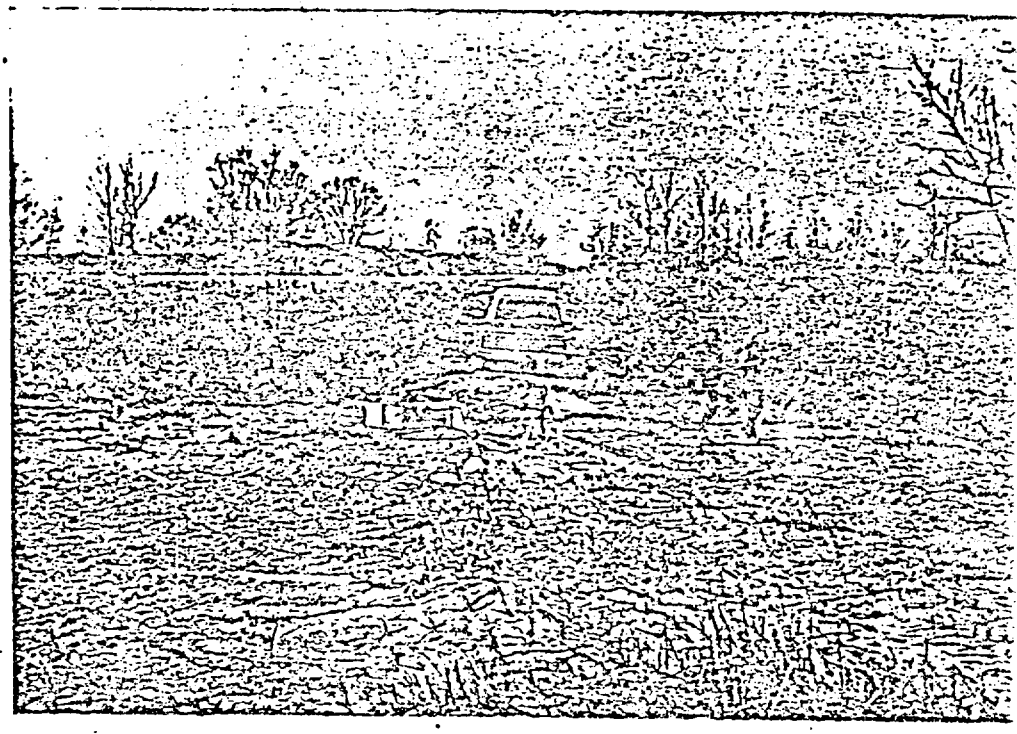

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Don Woods

DD# ES-8203-2-03

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Johns Manville / Waukegan

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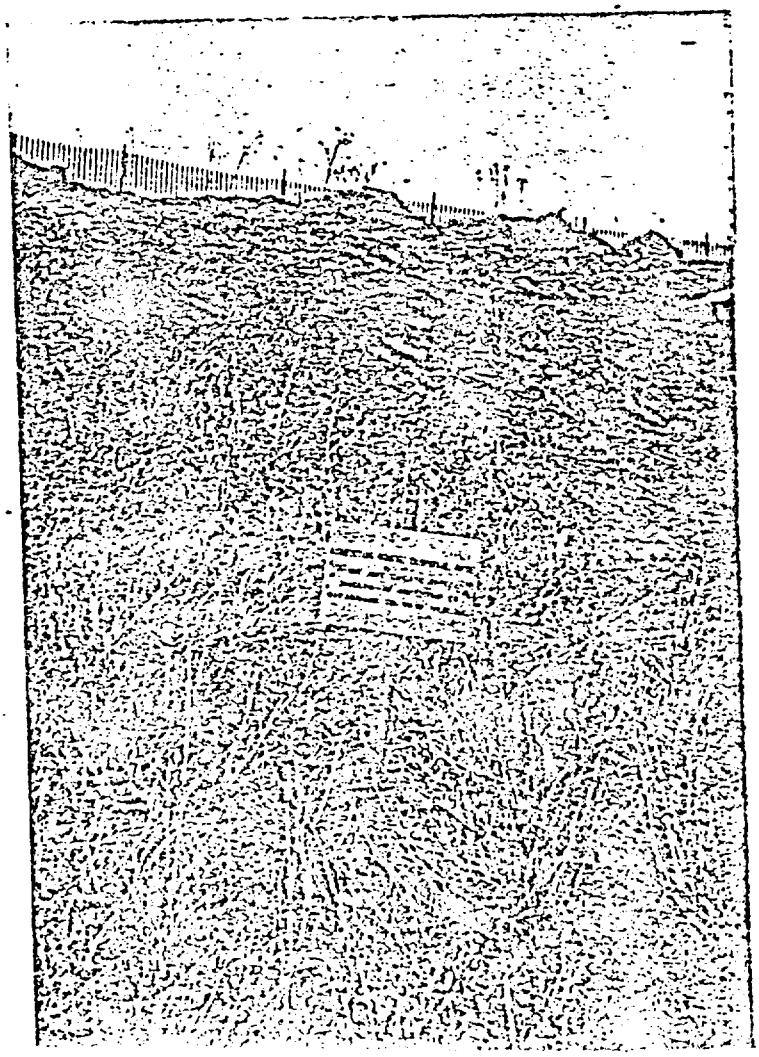

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DAN COZZA

D# F5-8203-2-03

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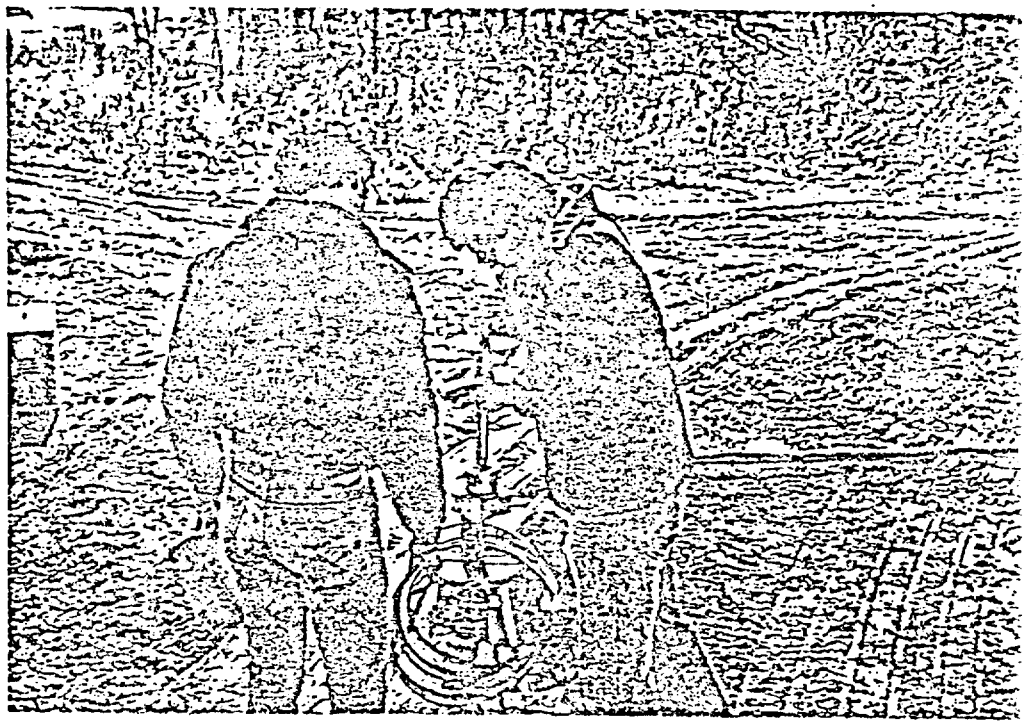
Setting up Sampler



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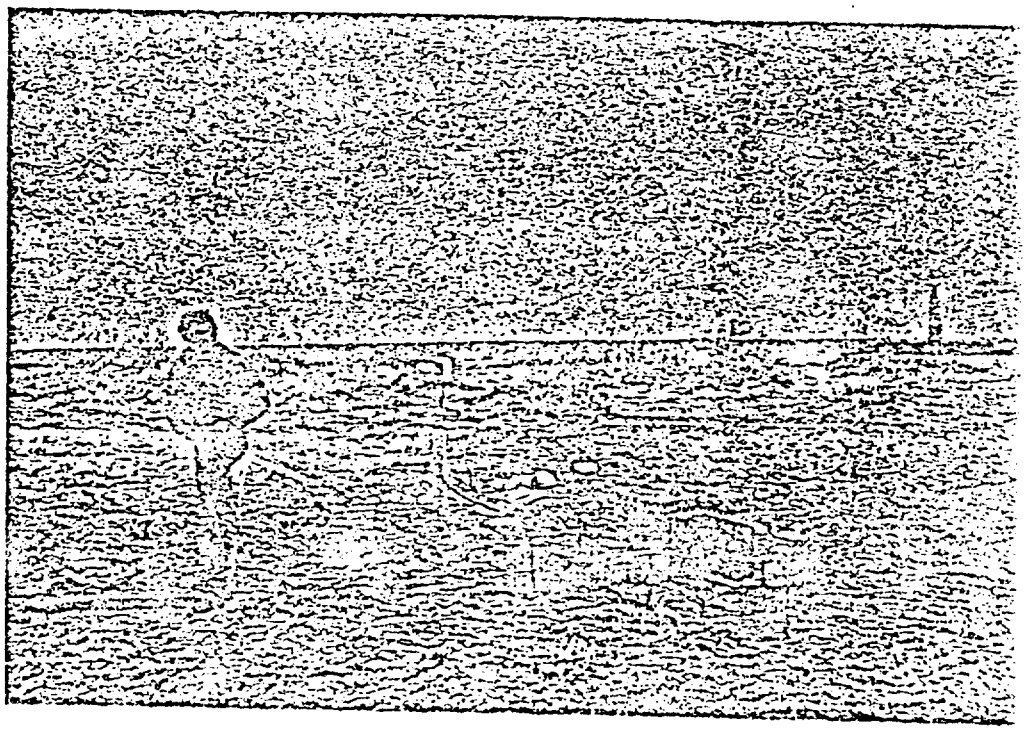

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION V

DATE: 12 AUG 1982

SUBJECT: Calculation of Waste Volume for Manville Site, Waukegan, Illinois

FROM: Norman Niedergang
Environmental Engineer

TO: File

Three alternative techniques have been used to calculate the waste quantity at the above subject site:

1. Landfill capacity (per the facility Part A RCRA Permit Application)

   =600 ac. ft. = 96,800 cu. yd.

   This would score an 8 by the HRS.

2. Waste generation volume (per the facility Part A RCRA Permit Application)

   = 5 tons/yr. X 60 yrs. = 300 tons

   This would score a 5 by the HRS.

3. Wastepile volume using physical description which includes a 50 ft. height with 2:1 sideslopes:

   = 19390 cu. yd.

   This would score an 8 by the HRS.

Based on the above, I have assigned a score of 8 for the waste quantity.

Facility name: MANVILLE SITE

Location: WAUKEGAN, ILLINOIS

EPA Region: V

Person(s) in charge of the facility: NORM NIEDERGANG, ON-SCENE COORDINATOR

Name of Reviewer: NORM NIEDERGANG Date: NOV. 24, 1982

General description of the facility:

(For example: landfill, surface impoundment, pile, container; types of hazardous substances; location of the facility; contamination route of major concern; types of information needed for rating; agency action, etc.)

LANDFILL BORDERING LAKE MICHIGAN ON MANVILLE PROPERTY INTO WHICH IS PLACED BOTH FRIABLE AND CONSOLIDATED ASBESTOS AND OTHER MANUFACTURING WASTES. THE LANDFILL HAS BEEN IN USE SINCE ABOUT 1920.

Scores: $S_M = 31.62$ ($S_{gw} = 4.33$ $S_{sw} = 8.58$ $S_a = 53.85$)

$S_{FE} = 0$

$S_{DC} = 37.50$

FIGURE 1
HRS COVER SHEET

Ground Water Route Work Sheet					
Rating Factor	Assigned Value (Circle One)	Multi-plier	Score	Max. Score	Ref. (Section)
1 Observed Release	(0) 45	1	0	45	3.1
If observed release is given a score of 45, proceed to line 4. If observed release is given a score of 0, proceed to line 2.					
2 Route Characteristics					3.2
Depth to Aquifer of Concern	0 1 2 (3)	2	6	6	
Net Precipitation	0 (1) 2 3	1	1	3	
Permeability of the Unsaturated Zone	0 1 2 (3)	1	3	3	
Physical State	0 1 (2) 3	1	2	3	
Total Route Characteristics Score			12	15	
3 Containment	0 1 2 (3)	1	3	3	3.3
4 Waste Characteristics					3.4
Toxicity/Persistence	0 3 6 9 12 15 (18)	1	18	18	
Hazardous Waste Quantity	0 1 2 3 4 (5) 6 7 8	1	5	8	
Total Waste Characteristics Score			23	26	
5 Targets					3.5
Ground Water Use	0 (1) 2 3	3	3	9	
Distance to Nearest Well/Population Served	(0) 4 6 8 10 12 16 18 20 24 30 32 35 40	1	0	40	
Total Targets Score			3	49	
6 If line 1 is 45, multiply 1 x 4 x 5 If line 1 is 0, multiply 2 x 3 x 4 x 5			2484	57,330	
7 Divide line 6 by 57,330 and multiply by 100		S_{gw} =	4.33		

FIGURE 2
GROUND WATER ROUTE WORK SHEET

Surface Water Route Work Sheet					
Rating Factor	Assigned Value (Circle One)	Multi-plier	Score	Max. Score	Ref. (Section)
1 Observed Release	(0) 45	1	0	45	4.1
If observed release is given a value of 45, proceed to line 4. If observed release is given a value of 0, proceed to line 2.					
2 Route Characteristics					4.2
Facility Slope and Intervening Terrain	(0) 1 2 3	1	0	3	
1-yr. 24-hr. Rainfall	0 1 (2) 3	1	2	3	
Distance to Nearest Surface Water	0 1 2 (3)	2	6	6	
Physical State	0 1 (2) 3	1	2	3	
Total Route Characteristics Score			10	15	
3 Containment	0 1 (2) 3	1	2	3	4.3
4 Waste Characteristics					4.4
Toxicity/Persistence	0 3 6 9 12 15 (18)	1	18	18	
Hazardous Waste Quantity	0 1 2 3 4 (5) 6 7 8	1	5	8	
Total Waste Characteristics Score			23	26	
5 Targets					4.5
Surface Water Use	0 1 (2) 3	3	6	9	
Distance to a Sensitive Environment	0 1 2 (3)	2	6	6	
Population Served/Distance to Water Intake Downstream	(0) 4 6 8 10 12 16 18 20 24 30 32 35 40	1	0	40	
Total Targets Score			12	55	
6 If line 1 is 45, multiply 1 x 4 x 5. If line 1 is 0, multiply 2 x 3 x 4 x 5			5520	64,350	
7 Divide line 6 by 64,350 and multiply by 100		S_{SW} =	8.58		

FIGURE 7
SURFACE WATER ROUTE WORK SHEET

Air Route Work Sheet					
Rating Factor	Assigned Value (Circle One)	Multi-plier	Score	Max. Score	Ref. (Section)
[1] Observed Release	0 (45)	1	45	45	5.1
Date and Location: 4/28/82 UPWIND, MIDSITE AND DOWNWIND					
Sampling Protocol: 8-HR SAMPLES COLLECTED AT ABOVE LOCATIONS ON 37mm MCE FILTERS, THEN ANALYSED BY ELECTRON MICROSCOPY.					
If line [1] is 0, the S_a = 0. Enter on line [5]. If line [1] is 45, then proceed to line [2].					
[2] Waste Characteristics					5.2
Reactivity and Incompatibility	(0) 1 2 3	1	0	3	
Toxicity	0 1 2 (3)	3	9	9	
Hazardous Waste Quantity	0 1 2 3 4 (5) 6 7 8	1	5	8	
	Total Waste Characteristics Score		14	20	
[3] Targets					5.3
Population Within 4-Mile Radius	0 9 12 15 18 (21) 24 27 30	1	21	30	
Distance to Sensitive Environment	0 1 2 (3)	2	6	6	
Land Use	0 1 2 (3)	1	3	3	
	Total Targets Score		30	39	
[4] Multiply [1] x [2] x [3]			18900	35,100	
[5] Divide line [4] by 35,100 and multiply by 100			S_a = 53.85		

FIGURE 9
AIR ROUTE WORK SHEET

	S	S^2
Groundwater Route Score (S_{gw})	4.33	18.75
Surface Water Route Score (S_{sw})	8.58	73.62
Air Route Score (S_a)	53.85	2899.82
$S_{gw}^2 + S_{sw}^2 + S_a^2$		2992.19
$\sqrt{S_{gw}^2 + S_{sw}^2 + S_a^2}$		54.70
$\sqrt{S_{gw}^2 + S_{sw}^2 + S_a^2} \,/\, 1.73 = S_M =$		31.62

FIGURE 10
WORKSHEET FOR COMPUTING S_M

-NOT APPLICABLE-

Fire and Explosion Work Sheet					
Rating Factor	Assigned Value (Circle One)	Multi-plier	Score	Max. Score	Ref. (Section)
1 Containment	1 3	1		3	7.1
2 Waste Characteristics					7.2
Direct Evidence	0 3	1		3	
Ignitability	0 1 2 3	1		3	
Reactivity	0 1 2 3	1		3	
Incompatibility	0 1 2 3	1		3	
Hazardous Waste Quantity	0 1 2 3 4 5 6 7 8	1		8	
Total Waste Characteristics Score				20	
3 Targets					7.3
Distance to Nearest Population	0 1 2 3 4 5	1		5	
Distance to Nearest Building	0 1 2 3	1		3	
Distance to Sensitive Environment	0 1 2 3	1		3	
Land Use	0 1 2 3	1		3	
Population Within 2-Mile Radius	0 1 2 3 4 5	1		5	
Buildings Within 2-Mile Radius	0 1 2 3 4 5	1		5	
Total Targets Score				24	
4 Multiply 1 x 2 x 3				1,440	
5 Divide line 4 by 1,440 and multiply by 100			S_{FE} =		

FIGURE 11
FIRE AND EXPLOSION WORK SHEET

Direct Contact Work Sheet					
Rating Factor	Assigned Value (Circle One)	Multi-plier	Score	Max. Score	Ref. (Section)
1 Observed Incident	0 45	1	0	45	8.1
If line 1 is 45, proceed to line 4 If line 1 is 0, proceed to line 2					
2 Accessibility	0 1 2 (3)	1	3	3	8.2
3 Containment	0 (15)	1	15	15	8.3
4 Waste Characteristics Toxicity	0 1 2 (3)	5	15	15	8.4
5 Targets					8.5
Population Within a 1-Mile Radius	0 1 2 (3) 4 5	4	12	20	
Distance to a Critical Habitat	(0) 1 2 3	4	0	12	
Total Targets Score			12	32	
6 If line 1 is 45, multiply 1 x 4 x 5 If line 1 is 0, multiply 2 x 3 x 4 x 5			8100	21,600	
7 Divide line 6 by 21,600 and multiply by 100		S_{DC} = 37.50			

FIGURE 12
DIRECT CONTACT WORK SHEET

June 28, 1982

DOCUMENTATION RECORDS
FOR
HAZARD RANKING SYSTEM

INSTRUCTIONS: The purpose of these records is to provide a convenient way to prepare an auditable record of the data and documentation used to apply the Hazard Ranking System to a given facility. As briefly as possible summarize the information you used to assign the score for each factor (e.g., "Waste quantity = 4,230 drums plus 800 cubic yards of sludges"). The source of information should be provided for each entry and should be a bibliographic-type reference that will make the document used for a given data point easier to find. Include the location of the document and consider appending a copy of the relevant page(s) for ease in review.

FACILITY NAME: JOHNS - MANVILLE

LOCATION: WAUKEGAN, ILLINOIS (S1/2, SEC 10, R45N, T23E)

NOTE: THE WASTE DISPOSAL AREA IS LOCATED ON AN AREA WHICH HAS BEEN BUILT UP BY WASTES* ACCUMULATING SINCE ABOUT 1920 TO A HEIGHT OF APPROXIMATELY 50 to 60 FT. ABOVE THE NATURAL GROUND SURFACE. THEREFORE, ANY CITED REFERENCE WHICH DISCUSSES "LANDFILL" OR "LANDFILLED AREA" IS ACTUALLY REFERING TO THE AREA WHICH HAS BEEN FILLED FROM THE NATURAL GROUND SURFACE UP TO A HEIGHT OF 50 TO 60 FT. TO THE BEST OF MY ESTIMATION, NO LANDFILLING HAS EVER OCCURED BELOW THE NATURAL GROUND SURFACE. THEREFORE A MORE CORRECT WAY TO DESCRIBE THE METHOD OF DISPOSAL AT THIS SITE IS "WASTE PILE". FURTHERMORE, CURRENT DISPOSAL OF FRIABLE ASBESTOS OCCURS IN AN EXCAVATED PIT ABOUT 150 FT. IN DIAMETER AND APPROXIMATELY 50 FT DEEP FROM THE TOP OF THE BUILT UP AREA TO THE NATURAL GROUND SURFACE. II

* WASTES PREDOMINATELY ROOFING PAPER - SHINGLE, PARTICLE BOARD AND INSULATION PROCESSES WHICH WAS DEFECTIVE. HOWEVER

GROUND WATER ROUTE

1 OBSERVED RELEASE

Contaminants detected (5 maximum):

— NO DOCUMENTED RELEASE —

Rationale for attributing the contaminants to the facility:

* * *

2 ROUTE CHARACTERISTICS

Depth to Aquifer of Concern

Name/description of aquifers(s) of concern:

GROUNDWATER DISCHARGE ZONE (0-50 FEET BELOW NATURAL GROUND SURFACE)

(LETTER FROM ILLINOIS STATE GEOLOGICAL SURVEY TO ROBERT WENGROW DATED 2/23/78.)

Depth(s) from the ground surface to the highest seasonal level of the saturated zone [water table(s)] of the aquifer of concern:

TOP OF THE ZONE OF SATURATION IS AT OR NEAR THE NATURAL GROUND SURFACE.

(SEE LETTER REFERENCED ABOVE)

Depth from the ground surface to the lowest point of waste disposal/ storage:

LOWEST POINT OF WASTE DISPOSAL/STORAGE IS AT THE NATURAL GROUND SURFACE (SEE P1. OF THIS FORM FOR FURTHER EXPLANATION)

Net Precipitation

Mean annual or seasonal precipitation (list months for seasonal):

MEAN ANNUAL PRECIPITATION = 32 INCHES

(FROM THE MODEL)

Mean annual lake or seasonal evaporation (list months for seasonal):

MEAN ANNUAL EVAPORATION = 30 INCHES

(FROM THE MODEL)

Net precipitation (subtract the above figures):

NET PRECIPITATION = +2 INCHES

Permeability of Unsaturated Zone

Soil type in unsaturated zone:

SURFICIAL BEACH SAND WHICH IS DENSE AND MEDIUM GRAINED.

(FROM: LETTER FROM ILLINOIS STATE GEOLOGICAL SURVEY TO ROBERT WENGROW DATED 2/23/78)

Permeability associated with soil type:

$> 10^{-3}$ cm/sec.

(FROM THE MODEL AND FREEZE & CHERRY, 1979, GROUNDWATER.)

Physical State

Physical state of substances at time of disposal (or at present time for generated gases):

FINE MATERIAL (FRIABLE ASBESTOS)

(IEPA DIVISION FILE MEMO FROM MARY SCHROEDER DATED 1/13/82)

* * *

3 CONTAINMENT

Containment

Method(s) of waste or leachate containment evaluated:

WASTE PILE

(SEE p1 OF THIS FORM FOR FURTHER EXPLANATION OF WASTE MANAGEMENT METHOD CHOSEN)

Method with highest score:

SINCE THE BUILT UP AREA IS LIKELY TO CONTAIN FRIABLE ASBE WASTE AS WELL AS CONSOLIDATED ASBESTOS WASTE MATERIAL (FROM EARLY WASTE DISPOSAL TECHNIQUES) AND THE PILES ARE NOT COVER WITH AN APPROPRIATE COVER MATERIAL (ie- ON THEN MATERIAL) AND NO LINER REPORTEDLY EXISTS (IEPA DIVISION FILE MEMO FROM MARY SCHROE DATED 2/8/80) - THIS WOULD RATE A (3)

4 WASTE CHARACTERISTICS

Toxicity and Persistence

Compound(s) evaluated:

FRIABLE ASBESTOS

(MEMO CITED ABOVE)

Compound with highest score:

FRIABLE ASBESTOS; TOXICITY → SAX LEVEL 3

PERSISTENCE → HIGHLY PERSISTENT; LEVEL 3

Hazardous Waste Quantity

Total quantity of hazardous substances at the facility, excluding those with a containment score of 0 (Give a reasonable estimate even if quantity is above maximum):

300 TONS

Basis of estimating and/or computing waste quantity:

FACILITY'S PART A RCRA PERMIT APPLICATION STATES THAT 5 TONS ARE PRODUCED PER YEAR. ASSUMING THE SAME WASTE GENERATION RATE OVER THE 60 YEAR LIFE OF THE FACILITY GIVES A WASTE VOLUME OF 300 TONS.

5 TARGETS

Ground Water Use

Use(s) of aquifer(s) of concern within a 3-mile radius of the facility:

NOT USED, BUT USABLE

(LETTER FROM ISGS TO ROBERT WENDROW DATED 2/23/78)

Distance to Nearest Well

Location of nearest well drawing from aquifer of concern or occupied building not served by a public water supply:

NONE

(LETTER CITED ABOVE)

Distance to above well or building:

- NOT APPLICABLE -

Population Served by Ground Water Wells Within a 3-Mile Radius

Identified water-supply well(s) drawing from aquifer(s) of concern within a 3-mile radius and populations served by each:

NONE

(TOPOGRAPHIC MAP; CITY OF WAUCEGAN PUBLIC WORKS)

Computation of land area irrigated by supply well(s) drawing from aquifer(s) of concern within a 3-mile radius, and conversion to population (1.5 people per acre):

NONE

Total population served by ground water within a 3-mile radius:

NONE

SURFACE WATER ROUTE

1 OBSERVED RELEASE

Contaminants detected in surface water at the facility or downhill from it (5 maximum):

— NONE

Rationale for attributing the contaminants to the facility: DOCUMENTED —

* * *

2 ROUTE CHARACTERISTICS

Facility Slope and Intervening Terrain *

Average slope of facility in percent:

VARIES CONSIDERABLY HOWEVER, SLOPE FROM TOP OF SITE TO NATURAL GROUND LEVEL IS ≥ 8%.

(ON-SITE INSPECTION OBSERVATIONS BY ECOLOGY & ENVIRONMENT, INC - FI
PICTURES INCLUDED

Name/description of nearest downslope surface water:

LAKE MICHIGAN

Average slope of terrain between facility and above-cited surface water body in percent:

~ 15FT/800 TO 1000 FT = 1.5% TO 1.9% SLOPE

(ON-SITE INSPECTION OBSERVATIONS BY ECOLOGY & ENVIRONMENT, INC - FIT AND TOPO MAP MEASUREMENT)

Is the facility located either totally or partially in surface water?

NO

(ON-SITE INSPECTION BY ECOLOGY & ENVIRONMENT, INC (FIT))

* BASED ON DISCUSSION WITH DON WOODS (FIT)

Is the facility completely surrounded by areas of higher elevation?

NO

1-Year 24-Hour Rainfall in Inches

BETWEEN 2.0 TO 2.5 INCHES

(FROM MODEL)

Distance to Nearest Downslope Surface Water

<1000 FT.

(DIRECT MEASUREMENT FROM TOPO MAP)

Physical State of Waste

FINE MATERIAL (FRIABLE ASBESTOS)

(SEE p. 3 OF THIS FORM FOR REFERENCE)

* * *

3 CONTAINMENT

Containment

Method(s) of waste or leachate containment evaluated:

WASTE PILES

(SEE p. 1 OF THIS FORM FOR FURTHER EXPLAINATION OF WASTE MANAGEMENT METHOD CHOSEN)

Method with highest score:

SINCE THE BUILT UP AREA IS LIKELY TO CONTAIN FRIABLE ASBESTOS WASTE AS WELL AS CONSOLIDATED ASBESTOS WASTE MATERIAL (FROM EARLY WASTE DISPOSAL TECHNIQUES) AND THE PILES ARE NOT COVERED WITH AN APPROPRIATE COVER MATERIAL (ie - EARTHEN MATERIAL) AND THE CONTAINMENT / DIVERSION SYSTEM IS POTENTIALLY UNSOUND (INADEQUATE COVER OF BUILT UP AREA) - THIS WOULD RATE A (2).

(IEPA LETTER FROM JOE PETRILLI TO J-M CORP. DATED 11/9/77)
AND
(IEPA DIVISION FILE MEMO FROM MARY SCHROEDER DATED 1/13/7

4 WASTE CHARACTERISTICS

Toxicity and Persistence

Compound(s) evaluated

FRIABLE ASBESTOS

— SEE P4 OF THIS FORM —

Compound with highest score:

FRIABLE ASBESTOS

Hazardous Waste Quantity

Total quantity of hazardous substances at the facility, excluding those with a containment score of 0 (Give a reasonable estimate even if quantity is above maximum):

300 TONS

Basis of estimating and/or computing waste quantity:

— SEE p.4 OF THIS FORM —

* * *

5 TARGETS

Surface Water Use

Use(s) of surface water within 3 miles downstream of the hazardous substance:

RECREATION - FISHING, BOATING, SWIMMING, ETC

Is there tidal influence?

– NOT APPLICABLE –

Distance to a Sensitive Environment

Distance to 5-acre (minimum) coastal wetland, if 2 miles or less:

– NOT APPLICABLE –

Distance to 5-acre (minimum) fresh-water wetland, if 1 mile or less:

WETLANDS IMMEDIATELY ADJACENT TO SITE (<100 FT.)

(TOPO MAP – WAUKEGAN QUAD)

Distance to critical habitat of an endangered species or national wildlife refuge, if 1 mile or less:

NONE KNOWN

Population Served by Surface Water

Location(s) of water-supply intake(s) within 3 miles (free-flowing bodies) or 1 mile (static water bodies) downstream of the hazardous substance and population served by each intake:

NONE

NOTE: INTAKE LOCATED SEC. 22, T45N, R23E IS ONLY USED 1-2 DAYS A YEAR AND ACCORDING TO BOB BARTHOLOMEW (FIT) IS THEREFORE NOT REPRESENTATIVE OF THE WATER SUPPLIED TO THE POPULATION ON A DAY-TO-DAY BASIS.

INTAKES SERVING THE POPULATION ARE WELL OUTSIDE THE 1-MILE PERSCRIBED RADIOS (STATIC WATER BODY)

(TOPO MAP – WAUKEGAN QUAD)

Computation of land area irrigated by above-cited intake(s) and conversion to population (1.5 people per acre):

NONE

Total population served:

NONE

Name/description of nearest of above water bodies:

LAKE MICHIGAN

Distance to above-cited intakes, measured in stream miles.

SURFACE WATER
INTAKE LOCATED JUST OVER 4 MILES DOWNSTREAM

(DIRECT MEASUREMENT - TOPO MAP, WAUKEGAN QUAD)

AIR ROUTE

1 OBSERVED RELEASE

Contaminants detected:

ASBESTOS

Date and location of detection of contaminants

4/28/82 UPWIND, MIDSITE, AND DOWNWIND SAMPLES

Methods used to detect the contaminants:

8-HOUR SAMPLES COLLECTED AT ABOVE LOCATIONS ON 37mm. MCE FILTERS THEN ANALYZED (FIBER COUNT) BY ELECTRON MICROSCOPY.

Rationale for attributing the contaminants to the site:

KNOWN ASBESTOS DISPOSAL SITE AND NATURE OF SAMPLE COLLECTION METHOD.

* * *

2 WASTE CHARACTERISTICS

Reactivity and Incompatibility

Most reactive compound:

ASBESTOS → "0" (NFPA)

Most incompatible pair of compounds:

NO INCOMPATIBLE PAIRS

Toxicity

Most toxic compound:

FRIABLE ASBESTOS → SAX LEVEL 2

Hazardous Waste Quantity

Total quantity of hazardous waste:

300 TONS

Basis of estimating and/or computing waste quantity:

SEE PAGE 4 OF THIS FORM

3 TARGETS

Population Within 4-Mile Radius

Circle radius used, give population, and indicate how determined:

(0 to 4 mi) 0 to 1 mi 0 to 1/2 mi 0 to 1/4 mi

CITY OF WAUKEGAN ALONE IS 67,653 PEOPLE ACCORDING TO THE 1980 CENSUS WHICH MAX'S THE POPULATION IN THIS RADIUS. (SMALLER RADII'S EXCLUDE THE MAJOR POPULATION AREAS AND WOULD RESULT IN AN OVERALL LOWER SCORE.)

Distance to a Sensitive Environment

– FROM TOPO MAP – WAUKEGAN QUAD. AND CITY OF WAUKEGAN PLANNING DEPT. –

Distance to 5-acre (minimum) coastal wetland, if 2 miles or less:

NOT APPLICABLE

Distance to 5-acre (minimum) fresh-water wetland, if 1 mile or less:

SEE p. 9 OF THIS FORM

Distance to critical habitat of an endangered species, if 1 mile or less:

NONE KNOWN

Land Use

Distance to commercial/industrial area, if 1 mile or less:

INDUSTRIAL AREA ADJACENT (< 1/4 MILE)

(AERIAL PHOTO'S ; TOPO MAP - WAUKEGAN QUAD)

Distance to national or state park, forest, or wildlife reserve, if 2 miles or less:

ILLINOIS BEACH STATE PARK ADJACENT (< 1/4 MILE)

(TOPO MAP - WAUKEGAN QUAD)

Distance to residential area, if 2 miles or less:

RESIDENTIAL AREA (1/4 - 1/2 MILE)

(TOPO MAP - WAUKEGAN QUAD)

Distance to agricultural land in production within past 5 years, if 1 mile or less:

NONE

Distance to prime agricultural land in production within past 5 years, if 2 miles or less:

NONE

Is a historic or landmark site (National Register or Historic Places and National Natural Landmarks) within the view of the site?

NONE

DIRECT CONTACT

1 OBSERVED INCIDENT

— NONE DOCUMENTED —

2 ACCESSIBILITY

AS PER DON WOODS (FIT - SITE INSPECTION TEAM MEMBER) BARRIER AROUND SITE DOES NOT EXTEND ALONG THE ENTIRE EASTERN EDGE OF THE SITE (LAKESIDE) AND ACCESS IS POSSIBLE FROM THAT SIDE.

3 CONTAINMENT

PILES, NOT COVERED WITH PROPER COVER MATERIAL (ie - EARTHEN MATERIAL) - PILES SUSPECT TO CONTAIN FRIABLE ASBESTOS DUE TO EARLY DISPOSAL TECHNIQUES

4 WASTE CHARACTERISTICS - TOXICITY

FRIABLE ASBESTOS → SAX LEVEL 3

5 TARGETS

POPULATION (1-MILE RADIUS): ① INDUSTRIAL AREA (WEST AND SOUTHWEST)
② ITEMIZED RESIDENTIAL AREA (WEST)
PLUS @ 65 STRUCTURES X 3.8 = >247 PEOPLE
TOTAL: 1000 - 5000 ESTIMATE
(FROM AERIAL PHOTO'S | TOPO MAP)

DISTANCE TO A CRITICAL HABITAT:

- NO KNOWN ENDANGERED SPECIES